Work Order ID 69797

May-29-12 1:57:58 PM

69797

Item ID: D6005-180 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Material

Start Date: 5/19/11 **Start Qty:** 12.00 *12*

Required Date: 6/15/12 **Req'd Qty:** 12.00 *12*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D6005	Rev A

100 0.00

100

Purchasing

Purchasing

PURCHASING

Memo 0.00

Issue P/O: 14138 a) Extrude as per Dwg D6005 length = 180" (Ref. D6005-180)b) Material: 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11)) Seamless aluminum tubec) Minimum ultimate tensile strength = 77ksid) Minimum tensile yield stren

CL 11/05/19 12

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo 0.00

Ensure material certification is attached

5/2/19 (19)

120 QC6- Inspect dimensions to drawing 0.00

120

QC

Quality Control

Memo 0.00

Ensure Material certification comply to Dwg D6005

5/27/19

Item ID: D6005-180 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Crosstube Material

Start Date: 5/19/11 **Start Qty:** 12.00 *12*
Required Date: 6/15/12 **Req'd Qty:** 12.00 *12*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Chemical Conversion Coat per QSI005 4.1	0.00							
130									
HandFinish	**Memo**	0.00							
Hand Finishing	N/A								
140	QC3- Inspect Part Finish	0.00							
140									
QC	**Memo**	0.00							
Quality Control									
150	Identify as per dwg & Stock Location 46	0.00							
150									
Packaging	**Memo**	0.00							
Packaging									

12-2-11

Item ID: D6005-180 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Crosstube Material

Start Date: 5/19/11 **Start Qty:** 12.00 *12*
Required Date: 6/15/12 **Req'd Qty:** 12.00 *12*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC21- Final Inspection - Work Order Release	0.00							
160									
QC	**Memo**	0.00							
Quality Control							12/7/24		

MCJ 12/07/23

Picklist Print

May-29-12 1:57:58 PM

Work Order ID: 69797

Parent Item: D6005-180 **Start Date:** 5/19/11 **Required Date:** 6/15/12

Parent Item Name: Crosstube Material **Start Qty:** 12.00 **Required Qty:** 12.00

Comments: IPP Rev:C04.06.15Added tolerance to Step 2KJ/JLM

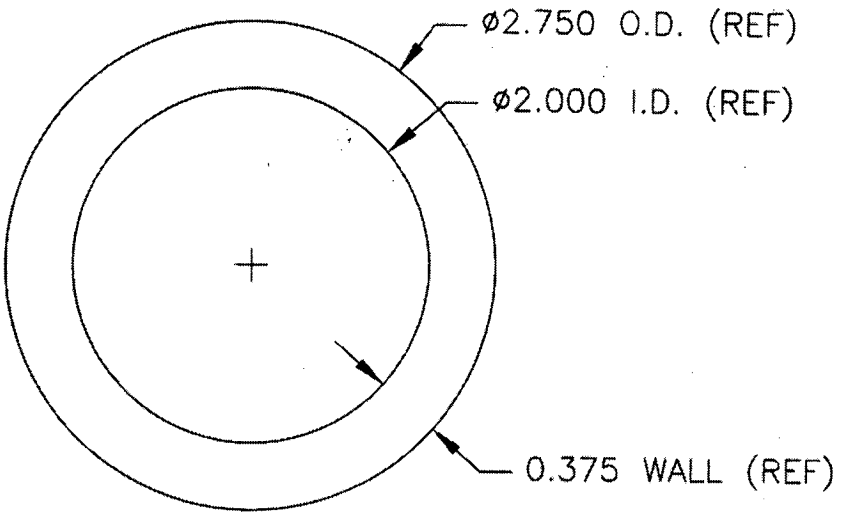
Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6005-180P Crosstube material		Purchased	No			120	Each	14.0000	1	12		5/2/8/9	

Location	Loc Qty	Loc Code
MAT	14	
69797	14	

DESIGN	DRAWN BY	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	APPROVED	DRAWING NO. D6005	REV. A SHEET 1 OF 1
DATE 00.11.17		TITLE CROSSTUBE MATERIAL	SCALE 1:1
A	00.11.17	NEW ISSUE	

SPECIFICATION CONTROL DRAWING

RELEASED
00.11.24



NOTES

1) D6005–XXX CROSSTUBE
LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 128" LONG TUBE: D6005–128

2) MATERIAL: 2.750 OD x 0.375 WALL 7075–T6/T6511 (WW–T–700/7 OR QQ–A–225/9 OR QQ–A–200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS:
O.D.: ± 0.006 MEAN (±0.012 INCLUDING OVALITY)
WALL: ±0.015 MEAN (±0.038 INCLUDING ECCENTRICITY)
LENGTH: XXX +0.125/–0.000
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
5) CHEMICAL CONVERSION COAT PER DART, QSI 005 4.1

Packinglist Al.Unna AG

Al.Unna ref. no.	42438/4
Customer PO.	PO. 14138
Date:	04.18.12

Boxmarking:

Dart Aerospace PO. 14138
D6005 - 180
Made in Germany Dest.: Hawkesbury ONT, Canada

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests

Item no.	Box no.	OD (inch)	ID (inch)	Wall (inch)	Net Weight (lbs)	Tare lbs	Gross Weight	Pieces	lengths (ft)	Boxdimension Lengths (inch)	Width (inch)	height (inch)	Cast. / Heat No. Top	Pcs.	Cast. / Heat No. Middle	Pcs.	Cast. / Heat No. Bottom
4	1	2,750	2,000	0,375	727	226	953	14	15	188,976	22,441	12,992			7490/1401164	14	
					727	**226**	**953**	**14**		,903 m³							

S:\VERSAND\USA_Packliste\im Lager_USA\42438_4

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: *Client:* Dart Aerospace Ltd.
1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer: *Cert No.: / No. du certificat:* 436/12

Bestellnummer: *Order No. / No. de commande* PO14138

Produkt: *Product / Produit:* Rohre nahtlos gepresst
Tubes seamless extruded

Auftrag: *Our Reference/Notre Reference:* 42438/4

Spezifikation: *Specification:* AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6005

Werkstoff: *Alloy/Alliage:* 7075

Zustand: *Temper/État* T 6511

Abmessung *Size / Dimension* 2,750 INCH x 2,000 INCH x 0,375 INCH x 180,000 INCH
D6005-180

Kennzeichnung *Marking/Marquage:* Cert.No. 436/12 - ALUnna - 7075 - T6511 - Cast No. 7490 - AMS - QQ - A - 200/11 - 2.750" OD x 0.375" Wall - Heat Lot No. 1401164 - ALUnna Order Conf. No. 42438/4-1 - P.O. 14138

Lieferung *Delivered Material / Matérial délivre:* pcs. 14 lbs 727

Country of Manufacture: Germany
Products are in accordance with applicable RoHS

1. Chemische Analyse — *Chemical Analysis / analyse chimique*

Elemente ohne Grenzwerte:
einzeln max. 0,05 %, insgesamt 0,15 %

Charge/ Cast No.		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
	min.			1,2		2,1	0,18	5,1						
	max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
7490/12		0,096	0,201	1,513	0,069	2,550	0,218	5,985	0,038	0,004	0,0415	0,0001	0,0017	0,0002

Hydrogen content: 0,09 **ccm/100 g Al** Elements without indication < 0,01 % **country of melt manufacturer: Germany**

2. Mechanische Eigenschaften — *Mechanical Properties / Valeurs Mécaniques*

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	77,0	66,0	7,0			
max.						
1	86,275	78,010	8,0			1401164
2	84,970	77,285	9,0			

RMS: outside 25 - max. 23,0 µ"

Ergebnis der Prüfungen: Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results: We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

Resultats: Nous confirmons que la livraison a été controlée et correspond avec les conventions faites à la réception de la commande

mergardtri

30.03.2012

Certified acc. DIN EN ISO 9001:2008 and DIN EN 9100:2003
valid until 2013-11-10
Cert.- Reg. No.: 001959 QM08; 001959 ASH

ALUnna

Abnahmebeauftragter

EXTRUSION INSPECTION SHEET

		SIDE A	SIDE B					ULTRA SONIC MEASURMENTS				
TUBE #	TOTAL LENGTH	DIA two readings	DIA two readings	INSIDE DIA	wall thickness measured w/vern	Strightness at 12"	Rockwell Reading	LOCATION on tube	R1	R2	R3	R4
DWG	180.00"	2.750"	2.750"	2.000"	0.375"	0.010"	N/A	Middle	N/A			
1	180.00"	2.749"/2.750"	2.751"/2.754"	1.983"	0.375"/0.386"	.0009"	N/A	Middle	0.380"	0.387"	0.396"	0.390"
2	180.00"	2.748"/2.752"	2.753"/2.755"	1.985"	0.371"/0.395"	0.020"	N/A	Middle	0.391"	0.395"	0.376"	0.382"
3	180.00"	2.742"/2.750"	2.750"/2.752"	1.980"	0.378"/0.394"	0.011"	N/A	Middle	0.380"	0.387"	0.391"	0.379"
4	180.00"	2.754"/2.756"	2.750"/2.754"	1.980"	0.379"/0.397"	0.014"	N/A	Middle	0.390"	0.391"	0.382"	0.384"
5	180.00"	2.751"/2.752"	2.748"/2.752"	1.982"	0.368"/0.388"	0.005"	N/A	Middle	0.379"	0.391"	0.391"	0.381"
6	180.00"	2.748"/2.756"	2.754"/2.753"	1.979"	0.376"/0.390"	0.016"	N/A	Middle	0.394"	0.382"	0.384"	0.391"
7	180.00"	2.749"/2.751"	2.752"/2.749"	1.981"	0.380"/0.397"	0.010"	N/A	Middle	0.392"	0.383"	0.379"	0.391"
8							N/A	Middle				
9							N/A	Middle				
10							N/A	Middle				
11							N/A	Middle				
12							N/A	Middle				
13							N/A	Middle				
14							N/A	Middle				
15							N/A	Middle				
PART # 6005-115		P/O# 14138			BATCH # B69797			Notes:				